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Case Report

Stenotrophomonas maltophilia spondylodiscitis following lumbar microdiscectomy mimicking a cotton granuloma: A case report and literature review

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ABSTRACT

Background: Vertebral osteomyelitis caused by *Stenotrophomonas maltophilia* is very rare. There are only two cases reported in literature. Here, we present a 48-year-old immunocompetent male who, following a lumbar microdiscectomy, developed postoperative spondylodiscitis due to *S. maltophilia* that mimicked a cotton granuloma.

Case Report: Two months ago, a 48-year-old male underwent a lumbar L4-L5 microdiscectomy, he newly presented with the left thigh and leg pain of 4 weeks duration. Laboratory studies revealed a CRP of 26 mg/l, an ESR of 6 mm (1st h), and total leukocyte count of 7.85 thousand/ul. The MRI T2 images showed a focal hyperintense lesion in the left lateral recesses at the L4-L5 level; the accompanying hypointense-smooth margin resembled a cotton granuloma. At surgery, we found a localized epidural collection of pus; *S. maltophilia* was isolated from the culture. His symptoms gradually improved, and symptoms fully resolved with 3 months of subsequent antibiotic therapy.

Conclusion: *S. maltophilia* causing vertebral osteomyelitis is extremely rare and can sometimes mimic a cotton granuloma. MR diagnosis, surgical decompression, and obtaining cultures are requisite to direct appropriate antibiotic therapy.

Keywords: Cotton granuloma, Spondylodiscitis, *Stenotrophomonas maltophilia*

INTRODUCTION

Different spinal infections include spondylodiscitis, septic discitis, spondylitis, and/or vertebral osteomyelitis (e.g., including endplate and/or epidural abscess). However, vertebral osteomyelitis caused by *S. maltophilia* attributed to a lumbar microdiscectomy is very rare.[2,3] Here, we present a 48-year-old immunocompetent male who, following a lumbar microdiscectomy, developed the unusual postoperative complication of spondylodiscitis due to *S. maltophilia* that resembled a cotton granuloma.

CASE REPORT

Two months ago, a nonimmunocompromised hypertensive 48-year-old male underwent an L4-L5 microdiscectomy [Figures 1 and 2]. He newly presented with 4 weeks of increasingly

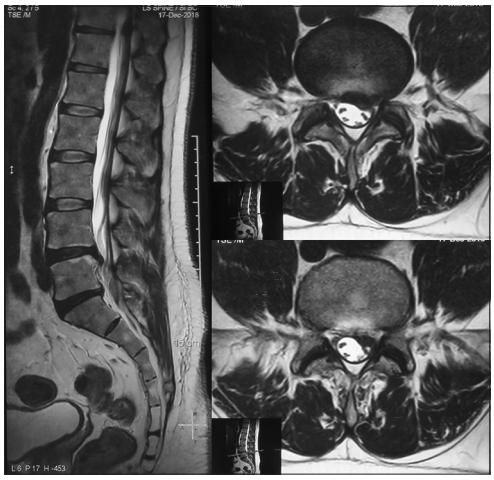

Figure 1: Preoperative T2W image showing left L4–L5 paracentral disc prolapse.

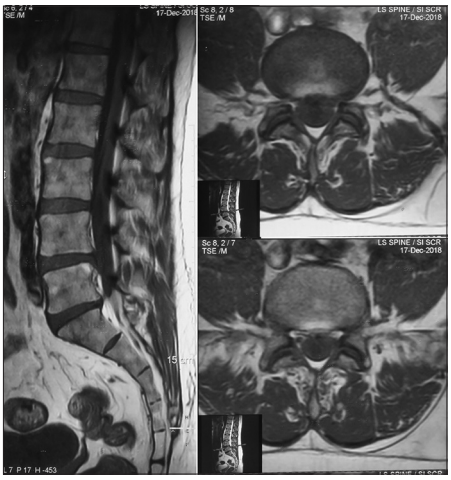

Figure 2: Preoperative T1W image showing left L4–L5 paracentral disc prolapse.

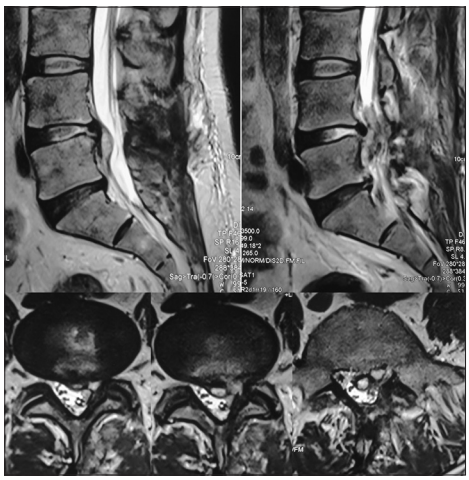

Figure 3: Postoperative T2W image showing focal hyperintense lesion in the left lateral recess with a hypointense and smooth margin resembling a cotton granuloma.

severe left thigh and leg pain. His only neurological finding was SLR positive on the left side at 30°.

Laboratory studies showed a CRP of 26 mg/l, an ESR of 6 mm (1st h), and total leukocyte count of 7.85 thousand/ul. MRI T2 images showed a focal hyperintense lesion in the left lateral recesses at the L4-L5 level with an accompanying hypointense/smooth margin resembling a cotton granuloma [Figures 3 and 4].[6] The differential diagnoses included a cotton granuloma versus an epidural abscess. At surgery, a collection of epidural pus was found at the L4-L5 level; the culture grew *S. maltophilia* [Figure 5]. The patient was placed on 6 weeks of intravenous cefoperazone-sulbactam followed by 6 weeks of oral levofloxacin. After this treatment, his infection fully resolved, and he exhibited no residual neurological sequelae.

DISCUSSION

S. maltophilia is a Gram-negative aerobic bacillus that is commonly found in the environment causing hospital-

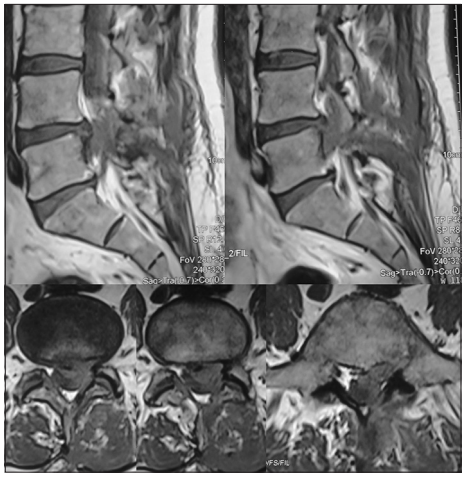

Figure 4: Postoperative T1W image showing focal hypointense lesion in the left lateral recess causing significant central canal compression.

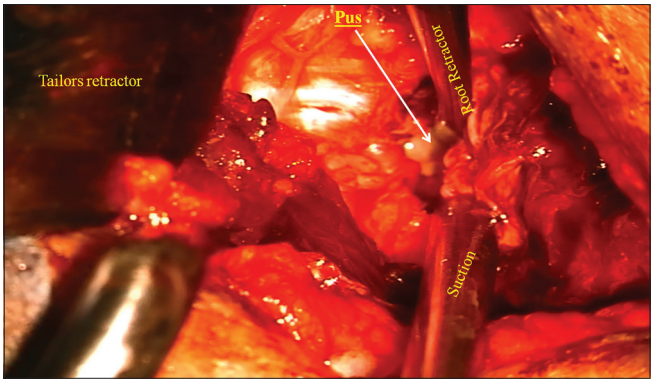

Figure 5: Intraoperative image showing pus collection in the lateral recess.

acquired infections in immunocompromised hosts. It is typically resistant to most broad-spectrum antibiotics.[2,3] These lesions may mimic a cotton granuloma which is defined as a foreign body reaction to cotton sponges and/or cotton fibers accidentally left in the body during spine surgery.[6]

Laboratory studies

Laboratory evaluations for *S. maltophilia* infections typically show elevated WBC counts (60%), elevated ESR and CRP levels (90%), and positive blood cultures (65%).[5] Gadolinium-enhanced MRI studies best differentiate infection from degenerative and/or tumor; they are both sensitive (96%) and specific (94%) for documenting *S. maltophilia* lesions. Open surgery (for debridement, decompression, and fusion) or CT-guided FNAC for a core biopsy (e.g., typically 70% successful in diagnosing this pathogen) should be performed to culture this organism and guide appropriate antibiotic therapy.[1,4]

CONCLUSION

A high degree of suspicion was required in this case to diagnose *S. maltophilia* as causing postoperative spondylodiscitis and must be differentiated from cotton granulomas. Here, after obtaining definitive cultures utilizing open surgical approach, prolonged antibiotics treatment was warranted.

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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